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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,100	05/21/2001	Fuminori Nakajima	IIDAP7.001AP	8246

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KNOBBE MARTENS OLSON & BEAR LLP  
2040 MAIN STREET  
FOURTEENTH FLOOR  
IRVINE, CA 92614

EXAMINER
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THOMPSON, CAMIE S

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 02/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No. 24

09/786,100

Applicant(s)

NAKAJIMA ET AL.

Examiner

Camie S Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1, 3-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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### DETAILED ACTION

1. Applicant's amendment and accompanying remarks filed on December 2, 2002 have been acknowledged.
2. Examiner acknowledges amended claims 1 and 3-4 and cancelled claim 2.
3. Examiner acknowledges newly added claim 9.
4. The objection to the specification is withdrawn due to applicant's amended abstract.
5. The rejection of claim 1 under 35 U.S.C. 103 (a) as being unpatentable over Nakajima et al., JP 10-010380 in view of Konaka et al., JP 63-213809 is withdrawn due to applicant's amendment.
6. The rejection of claims 2-8 under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al., JP 10-010380 in view of Konaka et al., JP 63-213809 and in further view of von Bonin, U.S. Patent Number 5,034,056 is withdrawn due to applicant's amendment.
7. The rejection of claim 1 under 35 U.S.C. 103 (a) as being unpatentable over Nakajima et al., JP 09-120023 in view of Konaka et al., JP 63-213809 is withdrawn due to applicant's amendment.

### *Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1 and 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al., JP 10-010380 in view of Mogami et al., U.S. Patent Number 5,684,071.

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Nakajima discloses a single core optical fiber cord used in office automation and has an outer diameter of 1 mm and has a resin coating at the center, a tensile-strength –fiber layer around the outer periphery of the fiber core wire and a thermoplastic resin sheath coating around the outer periphery of the tensile-strength-fiber layer (see abstract, Figure and page 1, paragraph 4). The Japanese reference does disclose that the coating layer is composed a non-halogen fire-retardant resin or the composition of the coating layer as per instant claims 1 and 4. The Japanese reference does not disclose the composition of the coating layer. Mogami teaches a resin composition used for electric parts in office automation. Mogami teaches a flame retardant polyester resin composition without using a halogen based flame retardant that can comprise ammonium polyphosphate and a surface-treated nitrogen-containing heterocyclic compound such as melamine cyanurate as per instant claims 1, 4 and 7(see column 1, lines 17-20; column 3, lines 43-50 and column 8, lines 26-33). The resin composition described by Mogami provides flame resistance, electric properties, lubricity, plasticity, and heat and moisture resistance. Therefore, it would have been obvious to one of ordinary skill in the art to use the Mogami resin composition as the coating layer of the Nakajima reference in order to have an optical fiber cord with heat and moisture resistance, good mechanical properties and heat stability as described by Mogami in column 1, lines 9-27). Additionally, Mogami teaches that nitrogen-containing heterocyclic compound is present in the composition in an amount of 2 to 50% based on the thermoplastic resin and that the phosphorus based flame retarder such as ammonium polyphosphate is present in the amount of 0-50% as per instant claims 1, 4 and 5 (see column 7, lines 50-64 and column 9, lines 56-64). The amount of flame retarder and nitrogen-containing heterocyclic compound affects the flame resistance, mechanical properties and heat resistance.

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Therefore, it would have been obvious to one of ordinary skill in the art to have a resin composition wherein the fire retardant containing ammonium polyphosphate and a nitrogen-containing heterocyclic compound are 18-60 parts by weight to a 100 parts by weight of thermoplastic resin as per instant claims 1, 4 and 5 in order to increase flame resistance, heat resistance and the mechanical properties of the optical fiber cord.

Neither reference discloses that the ammonium polyphosphate is surface treated as per instant claim 3 and 6. A surface treated flame retardant decreases the deterioration of the mechanical properties of the composition. Therefore, it would have been obvious to one of ordinary skill in the art to use a surface-treated ammonium polyphosphate in the composition in order to maintain the mechanical properties and to protect the surface of the optical fiber cord.

The bending modulus of the outer coating layer of the optical fiber is between 500 to 1,300 MPa as this is a physical property of the outer coating resin layer as per instant claims 8 and 9. Since the same resin is used by the reference and in the instant invention, this feature is inherent.

10. Claims 1, 4 and 7-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al., JP 10-013080 in view of Breant, U.S. Patent Number 6,025,423.

Nakajima discloses a single core optical fiber cord used in office automation and has an outer diameter of 1 mm and has a resin coating at the center, a tensile-strength fiber layer around the outer periphery of the fiber core wire and a thermoplastic resin sheath coating around the outer periphery of the tensile-strength-fiber layer (see abstract, Figure and page 1, paragraph 4). The Japanese reference does disclose that the coating layer is composed a non-halogen fire-retardant resin or the composition of the coating layer as per instant claims 1 and 4. The Japanese reference does not disclose the composition of the coating layer. Breant teaches a thermoplastic

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resin composition that comprises a polyamide matrix and blended flame-retardant agents such as melamine cyanurate and ammonium polyphosphate wherein the resin can be used as coverings for electric cables as per instant claims 1, 4 and 7 (see abstract, column 4, lines 57-58 and column 4, line 65-column 5, line 3). Flame retardant agents affect the fire resistance of the composition. Therefore, it would have been obvious to one of ordinary skill in the art to have ammonium polyphosphate and melamine cyanurate in the resin composition that is in the outer coating layer of the Nakajima reference in order to increase the fire resistance of the optical fiber cord. The Breant reference teaches that effectiveness of flame retardant agents is generally obtained by a mass greater than 30% as per instant claims 1 and 4 (see column 4, lines 59-64). Therefore, it would have been obvious to one of ordinary skill in the art to have a coating composition comprising ammonium polyphosphate and melamine cyanurate present in the amount of 18-60 parts by weight to 100 parts by weight of thermoplastic resin in order to have improved fire resistance and stability as described by Breant in the abstract. Breant teaches that the resin composition comprising a polyamide matrix and a blend of ammonium polyphosphate and melamine cyanurate can have flexibility between 500 MPa and 1000 MPa as per instant claims 8 and 9. A flexural modulus in this range retains good resistance to solvents and good fire resistance as detailed by Breant in column 5, lines 55-68.

11. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (703) 305-4488. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly, can be reached at (703) 308-0449. The fax phone numbers for the Group are (703) 872-9310 {before finals} and (703) 872-9311 {after finals}.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

CYNTHIA H. KELLY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

